[4910-13-P]

#### DEPARTMENT OF TRANSPORTATION

**Federal Aviation Administration** 

**14 CFR Part 39** 

[Docket No. FAA-2014-0144; Directorate Identifier 2013-NM-232-AD]

RIN 2120-AA64

Airworthiness Directives; Bombardier, Inc. Airplanes

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for certain Bombardier Model DHC-8-400, -401, and -402 airplanes. This proposed AD was prompted by reports of rudder bearings falling out of the fore rudder hinge bracket during assembly. This proposed AD would require a proof load test and detailed inspections; and installation of a new bearing, reaming, or repair of the bearing if necessary. We are proposing this AD to detect and correct improper bearing installation, which could result in abnormal wear and potential increased freeplay in the rudder system, and resultant airframe vibration, leading to compromise of the flutter margins of the airplane.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <a href="http://www.regulations.gov">http://www.regulations.gov</a>. Follow the instructions for submitting comments.
  - Fax: (202) 493-2251.
  - Mail: U.S. Department of Transportation, Docket Operations, M-30, West

Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30,
West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE.,
Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Bombardier, Inc., Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; email <a href="mailto:thd.qseries@aero.bombardier.com">thd.qseries@aero.bombardier.com</a>; Internet <a href="http://www.bombardier.com">http://www.bombardier.com</a>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

## **Examining the AD Docket**

You may examine the AD docket on the Internet at <a href="http://www.regulations.gov">http://www.regulations.gov</a> by searching for and locating Docket No. FAA-2014-0144; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Ricardo Garcia, Aerospace Engineer, Airframe and Mechanical Systems Branch, ANE-171, FAA, New York Aircraft

Certification Office (ACO), 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7331; fax 516-794-5531.

#### SUPPLEMENTARY INFORMATION:

#### **Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include "Docket No. FAA-2014-0144; Directorate Identifier 2013-NM-232-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to <a href="http://www.regulations.gov">http://www.regulations.gov</a>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

## **Discussion**

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2013-34, dated November 1, 2013 (referred to after this as the Mandatory Continuing Airworthiness Information, or "the MCAI"), to correct an unsafe condition for the specified products. The MCAI states:

It was reported that rudder bearings were falling out of the fore rudder hinge bracket during assembly. Investigation revealed the root cause as improper application of the adhesive compound and the lack of application of sealant during the installation of the rudder bearings into the fore rudder hinge bracket. The improper bearing installation, if

not corrected, could result in abnormal wear and could potentially increase the freeplay in the rudder system. This may result in airframe vibration, eventually compromising the flutter-margins of the aeroplane.

This [Canadian] AD mandates the inspection, and rectification as required, of the fore rudder bearings in the hinge bracket assembly.

Required actions include a proof load test for slippage and freeplay. Related investigative actions include a detailed inspection of a certain bearing for damage, corrosion, and dimension conformity; and a detailed inspection of the fitting bore of the fore rudder hinge bracket for wear, damage, corrosion, and dimension conformity. Corrective actions include installation of a new bearing, reaming, or repair of the bearing. You may examine the MCAI in the AD docket on the Internet at <a href="http://www.regulations.gov">http://www.regulations.gov</a> by searching for and locating it in Docket No. FAA-2014-0144.

#### **Relevant Service Information**

Bombardier has issued Service Bulletin 84-27-44, Revision 'A,' dated June 10, 2009. The actions described in this service information are intended to correct the unsafe condition identified in the MCAI.

# FAA's Determination and Requirements of this Proposed AD

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all pertinent information and determined an unsafe condition exists and is likely to exist or develop on other products of the same type design.

In many FAA transport ADs, when the service information specifies to contact the manufacturer for further instructions if certain discrepancies are found, we typically include in the AD a requirement to accomplish the action using a method approved by either the FAA or the State of Design Authority (or its delegated agent).

We have recently been notified that certain laws in other countries do not allow such delegation of authority, but some countries do recognize design approval organizations. In addition, we have become aware that some U.S. operators have used repair instructions that were previously approved by a State of Design Authority or a Design Approval Holder (DAH) as a method of compliance with this provision in FAA ADs. Frequently, in these cases, the previously approved repair instructions come from the airplane structural repair manual or the DAH repair approval statements that were not specifically developed to address the unsafe condition corrected by the AD. Using repair instructions that were not specifically approved for a particular AD creates the potential for doing repairs that were not developed to address the unsafe condition identified by the MCAI AD, the FAA AD, or the applicable service information, which could result in the unsafe condition not being fully corrected.

To prevent the use of repairs that were not specifically developed to correct the unsafe condition, this proposed AD would require that the repair approval specifically refer to the FAA AD. This change is intended to clarify the method of compliance and to provide operators with better visibility of repairs that are specifically developed and approved to correct the unsafe condition. In addition, we use the phrase "its delegated agent, or the DAH with State of Design Authority design organization approval, as

applicable" in this proposed AD to refer to a DAH authorized to approve required repairs for this proposed AD.

# **Costs of Compliance**

We estimate that this proposed AD affects 78 airplanes of U.S. registry.

We also estimate that it would take about 7 work-hours per product to comply with the basic requirements of this proposed AD. The average labor rate is \$85 per work-hour. Required parts would cost \$0 per product. Based on these figures, we estimate the cost of this proposed AD on U.S. operators to be \$46,410, or \$595 per product.

In addition, we estimate that any necessary follow-on actions would take about 8 work-hours and require parts costing \$155, for a cost of \$835 per product. We have no way of determining the number of aircraft that might need this action.

## **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

**Regulatory Findings** 

We determined that this proposed AD would not have federalism implications

under Executive Order 13132. This proposed AD would not have a substantial direct

effect on the States, on the relationship between the national Government and the States,

or on the distribution of power and responsibilities among the various levels of

government.

For the reasons discussed above, I certify this proposed regulation:

1. Is not a "significant regulatory action" under Executive Order 12866;

2. Is not a "significant rule" under the DOT Regulatory Policies and Procedures

(44 FR 11034, February 26, 1979);

3. Will not affect intrastate aviation in Alaska; and

4. Will not have a significant economic impact, positive or negative, on a

substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

**The Proposed Amendment** 

Accordingly, under the authority delegated to me by the Administrator, the FAA

proposes to amend 14 CFR part 39 as follows:

**PART 39 - AIRWORTHINESS DIRECTIVES** 

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. Amend § 39.13 by adding the following new airworthiness directive (AD):

**Bombardier, Inc.:** Docket No. FAA-2014-0144; Directorate Identifier

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2013-NM-232-AD.

## (a) Comments Due Date

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### (b) Affected ADs

None.

# (c) Applicability

This AD applies to Bombardier, Inc. Model DHC-8-400, -401, and -402 airplanes, certificated in any category, serial numbers 4166 through 4175, inclusive.

## (d) Subject

Air Transport Association (ATA) of America Code 27, Flight Controls.

## (e) Reason

This AD was prompted by reports of rudder bearings falling out of the fore rudder hinge bracket during assembly. We are issuing this AD to detect and correct improper bearing installation, which could result in abnormal wear and potential increased freeplay in the rudder system, and resultant airframe vibration, leading to compromise of the flutter margins of the airplane.

# (f) Compliance

Comply with this AD within the compliance times specified, unless already done.

# (g) Proof Load Test

Within 2,000 flight hours or 12 months after the effective date of this AD, whichever occurs first, do a proof load test for slippage and freeplay (relative movement between the bearing and fitting), in accordance with the Accomplishment Instructions of

Bombardier Service Bulletin 84-27-44, Revision 'A,' dated June 10, 2009. If no slippage or freeplay is detected during the proof load test required by this paragraph, before further flight, identify the area with a marker and apply sealant if missing, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-27-44, Revision 'A,' dated June 10, 2009; and after identifying the area with a marker and applying sealant, no further action is required by this AD.

## (h) Rectification

If any slippage or freeplay (relative movement between the bearing and fitting) is detected during the test required by paragraph (g) of this AD, before further flight, do the actions specified in paragraphs (h)(1) and (h)(2) of this AD.

- (1) Do a detailed inspection of bearing DSC8-6 for damage, corrosion, and dimension conformity, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-27-44, Revision 'A,' dated June 10, 2009. If damage, corrosion, or dimension non-conformity is found, before further flight, install new bearing DSC8-6, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-27-44, Revision 'A,' dated June 10, 2009.
- (2) Do a detailed inspection of the fitting bore of the fore rudder hinge bracket assembly for wear, damage, corrosion, and dimension conformity, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-27-44, Revision 'A,' dated June 10, 2009.

- (i) If damage, corrosion, or dimension non-conformity is found during the inspection required by paragraph (h)(2) of this AD, before further flight, ream the inside diameter, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-27-44, Revision 'A,' dated June 10, 2009.
- (ii) If bore wear or damage beyond 0.8140-inch diameter is found during the inspection required by paragraph (h)(2) of this AD, before further flight, repair using a method approved by the Manager, New York Aircraft Certification Office (ACO), FAA; or Transport Canada Civil Aviation (TCCA) (or its delegated agent, or the Design Approval Holder (DAH) with TCCA design organization approval). For a repair method to be approved, the repair approval must specifically refer to this AD.

## (i) Credit for Previous Actions

This paragraph provides credit for actions required by paragraphs (g) and (h) of this AD, if those actions were performed before the effective date of this AD using Bombardier Service Bulletin 84-27-44, dated April 13, 2009, which is not incorporated by reference in this AD.

#### (j) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York ACO, ANE-170, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the New York ACO, send it to ATTN:

Program Manager, Continuing Operational Safety, FAA, New York ACO, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

(2) Airworthy Product: For any requirement in this AD to obtain corrective actions from a manufacturer, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they were approved by the State of Design Authority (or its delegated agent, or the DAH with a State of Design Authority's design organization approval). For a repair method to be approved, the repair approval must specifically refer to this AD. You are required to ensure the product is airworthy before it is returned to service.

#### (k) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian Airworthiness Directive CF-2013-34, dated November 1, 2013, for related information. This MCAI may be found in the AD docket on the Internet at <a href="http://www.regulations.gov">http://www.regulations.gov</a> by searching for and locating Docket No. FAA-2014-0144.

(2) For service information identified in this AD, contact Bombardier, Inc.,

Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario

M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; email

thd.qseries@aero.bombardier.com; Internet http://www.bombardier.com. You may view

this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue

SW., Renton, WA. For information on the availability of this material at the FAA, call

425-227-1221.

Issued in Renton, Washington, on March 14, 2014.

Jeffrey E. Duven,

Manager,

Transport Airplane Directorate,

Aircraft Certification Service.

[FR Doc. 2014-06493 Filed 03/24/2014 at 8:45 am; Publication Date: 03/25/2014]

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